REMARKS

I. Status Summary

Claims 2-8, 10-14, and 45-55 are pending in the present U.S. patent application and have been examined. An Official Action (hereinafter the "Final Official Action") was issued April 22, 2003 by the United States Patent and Trademark Office (hereinafter the "Patent Office").

Claims 2-4 and 8-11 were rejected under 35 U.S.C. § 112, first paragraph. Claims 2-4 and 8-11 were rejected under 35 U.S.C. § 112, second paragraph. Claims 2-4, 8, 10, 14, and 45-55 were rejected under 35 U.S.C. § 102(b) over Tonks et al. (WO 95/30008; hereinafter "Tonks").

All of the pending claims are herein canceled. Thus, the rejections presented in the Final Official Action dated April 22, 2003 are believed to have been rendered moot. New claims 56-89 have been added. Reconsideration of the application as amended and based on the arguments set forth herein below is respectfully requested.

II. Support for the New Claims

All pending claims have been canceled, and new claims 56-89 have been added. While applicants respectfully disagree with the rejections presented in the Final Official Action, new claims 56-89 have been added in an effort to expedite the prosecution of the instant application. As such, the canceling of claims 1-55 should not be regarded as a surrender of any subject matter encompassed by the canceled claims.

Support for the new claims can be found throughout the specification as filed, particularly in the claims as originally filed. Additional support for the new claims can be found as follows:

Claim No.	Support in Specification as Filed
56	Specification page 47, line 19, through page 48, line 8 ("specific" binding); page 82, line 13 (amino acids 175-536)
57, 64, 70, 78, 85	Specification pages 43, lines 4-9, and page 50, lines 1-12
58, 65, 71, 79, 86	Original Claim 4
59, 80	Original Claim 5
60, 66, 72, 81, 87	Original Claim 8
61	Original Claims 3 and 8
62, 67, 73, 82, 88	Original Claim 14
63	Original Claim 3
68	Original Claim 1 and Figure 1A (extracellular domain); page 47, line 19, through page 48, line 8 ("specific" binding); page 7, lines 7-12 ("modulating angiogenesis")
69, 77, 84	Example 2 (angiogenesis assays)
74, 89	Original Claim 6
75	Original Claim 7
76	Specification page 47, line 19, through page 48, line 8 ("specific" binding); page 82, line 13 (amino acids 175-536); page 7, lines 7-12 ("modulating angiogenesis")
83	Original Claim 3; page 7, lines 7-12 ("modulating angiogenesis"); Example 2 (angiogenesis assays)

Applicants respectfully submit that the newly added claims are fully supported by the specification as filed. Accordingly, no new matter has been introduced by the addition of claims 56-89.

III. Discussion of the New Claims in View of Tonks

Applicants respectfully submit that new claims 56-89 are patentably distinguishable from Tonks. These claims can be broadly grouped into five main categories: (1) an antibody, or a fragment or derivative thereof, which specifically binds to an epitope present within amino acids 175-536 of a human ECRTP/DEP-1 polypeptide; (2) an antibody, or a fragment or derivative thereof, which specifically binds to an epitope of an ECRTP/DEP-1 polypeptide extracellular domain, the epitope comprising the sequence QSRDTEVL (SEQ ID NO: 1); (3) an antibody, or a fragment or derivative thereof, which specifically binds to the extracellular domain of a human ECRTP/DEP-1 polypeptide, and wherein the antibody, fragment, or derivative thereof has activity in modulating angiogenesis; (4) an antibody, or a fragment or derivative thereof, which specifically binds an epitope present within amino acids 175-536 of a human ECRTP/DEP-1 polypeptide, and wherein the antibody, fragment, or derivative thereof has activity in modulating angiogenesis; and (5) an antibody, or a fragment or derivative thereof, which specifically binds to an epitope of an ECRTP/DEP-1 polypeptide extracellular domain, the epitope comprising the sequence QSRDTEVL (SEQ ID NO: 1), wherein the antibody, fragment, or derivative thereof has activity in modulating angiogenesis.

In each case, applicants respectfully submit that the claims are novel in view of Tonks because Tonks does not disclose an antibody, or a fragment or derivative thereof, which binds to the extracellular domain of ECRTP/DEP-1. Since, despite the Patent Office's contentions to the contrary, Tonks does not disclose an antibody, or a fragment or derivative thereof, which binds to an extracellular domain of an ECRTP/DEP-1 polypeptide, Tonks also does not disclose an antibody that binds an epitope within amino acids 175-536 of the extracellular domain, or to an epitope of SEQ ID NO: 1.

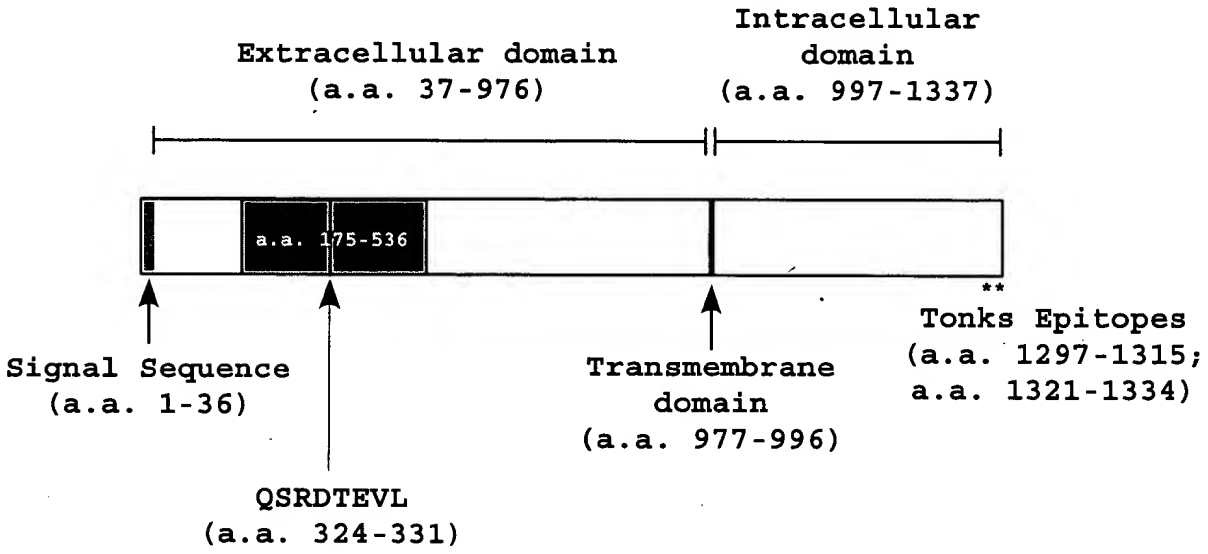
The Patent Office contends that page 8 of Tonks "teaches that any antibody (monoclonal, polyclonal, single chain chimeric, antiidiotypic, and CDR grafted antibodies) is useful for the modulating the in vivo activity of the DEP-1 protein". Final Official Action at pages 3-4. Applicants respectfully submit, however, that the

cited statement does not suffice to anticipate the instant claims to antibodies that bind to the extracellular domain.

According to the Court of Appeals for the Federal Circuit, anticipation "requires that all of the elements and limitations of the claimed subject matter must be expressly or inherently described in a single prior art reference. Elan Pharmaceuticals, Inc. v. Mayo Foundation for Medical Education and Research, 304 F.3d 1221 (Fed. Cir. 2002), en banc review granted, 314 F.3d 1299 (Fed. Cir. 2002), citing In re Robertson, 169 F.3d 743, 745 (Fed. Cir. 1999). The Federal Circuit further states in Elan that "'anticipation' in the patent sense means that the subject matter was previously known. A precatory suggestion of general procedures that may or may not succeed in producing the novel product, a product that has not previously been produced, does not convert the suggested product into a previously existing product". Elan, 304 F.3d at 1230. Further, according to the Court of Appeals for the Federal Circuit, "an inherent limitation is one that is necessarily present; invalidation based on inherency is not established by 'probabilities or possibilities'" (emphasis added). Scaltech, Inc. v. Retec/Tetra, LLC., 178 F.3d 1378, 1384, 51 USPQ2d 1055, 1059 (Fed. Cir. 1999). Furthermore, the Federal Circuit stated, "the mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency". Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1269, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

Applicants respectfully submit that Tonks does not disclose antibodies that bind to the extracellular domain of ECRTP/DEP-1, particularly antibodies that bind to amino acids 175-536 of the extracellular domain or to an epitope comprising the sequence QSRDTEVL (SEQ ID NO: 1). In fact, Tonks, teaches away from antibodies binding to the extracellular domain by disclosing instead antibodies that bind to the catalytic (*i.e.* intracellular) domain. In support of this contention, applicants submit the following diagram of the arrangement of the human ECRTP/DEP-1 protein, along with the locations of the various domains and epitopes disclosed by Tonks and in the instant application. This diagram is based upon the specification as filed in conjunction with Figure 1 of Ostman et al. (1994) "Expression

of DEP-1, a receptor-like protein-tyrosine-phosphatase, is enhanced with increasing cell density", *Proc Natl Acad Sci U S A* 91:9680-9684, a publication incorporated by reference in the instant application at page 82, lines 14-15, and disclosed in the instant prosecution in an IDS filed June 20, 2000.



As is clearly shown above, Tonks generated antisera against two epitopes: amino acids 1297-1315 and 1321-1334, both of which are found at the extreme C-terminus of the DEP-1 protein. These antibodies therefore bind exclusively to the intracellular domain of DEP-1, and thus on their face cannot be held to anticipate a claim to an antibody, or a fragment or derivative thereof, which specifically binds to (a) an epitope present within amino acids 175-536 of a human ECRTP/DEP-1 polypeptide; or (b) an eight amino acid epitope of an ECRTP/DEP-1 polypeptide extracellular domain, the eight amino acid epitope having the sequence QSRDTEVL (SEQ ID NO: 1).

Applicants respectfully submit that the above discussion is equally applicable to Claims 68-89. Since Tonks does not anticipate antibodies that bind to the extracellular domain of ECRTP/DEP-1, applicants respectfully submit that Tonks cannot anticipate Claims 68-89. Furthermore, applicants respectfully submit that Tonks cannot anticipate these claims for the additional reason that Tonks does not

disclose the use of anti-ECRTP/DEP-1 antibodies to modulate angiogenesis, and element of claims 68-89.

In summary, applicants respectfully submit that the newly added claims are patentably distinct over Tonks, and that claims 56-89 are in condition for allowance. Applicants respectfully solicit a Notice of Allowance to that effect.

CONCLUSIONS

In light of the above Amendment and the Remarks presented hereinabove, it is respectfully submitted that the newly added claims are in proper condition for allowance, and such action is earnestly solicited.

If any minor issues should remain outstanding after the Examiner has had an opportunity to study the Amendment and Remarks, it is respectfully requested that the Examiner telephone the undersigned attorney so that all such matters may be resolved and the application placed in condition for allowance without the necessity for another Action and/or Amendment.

DEPOSIT ACCOUNT

The Commissioner is hereby authorized to charge any deficiencies or credit any overpayments associated with the filing of this correspondence to Deposit Account Number **50-0426**.

Respectfully submitted,

JENKINS, WILSON & TAYLOR, P.A.

Date: 09/22/2003

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